

The requirements of 702 KAR 4:170 Facility Programming and Construction Criteria Planning Guide, are identified throughout this Checklist with a reference to the regulation. All other items are strongly recommended as "best practices" for inclusion in the design and construction of school facilities in Kentucky.

PLAN REVIEW CHECKLIST

for SCHOOL BUILDING PROJECTS

Kentucky Department of Education

Division of Facilities Management

Construction Branch

BG#

PROJECT

SCHOOL DISTRICT

DATE

KDE PROGRAM

CONSULTANT

_ Provide a dumpster area with enclosure and/or concrete-filled bollards. (702 KAR 4:170)
_ Avoid excessive paving or concrete curbing.
_ Check contours for adequate drainage away from building. (702 KAR 4:170)
_ Locate Kitchen/Custodial employee parking at kitchen loading/unloading area.
_ Locate site utilities, and physical plant components to avoid conflict with student and vehicular traffic, future growth of play areas, driveways, building expansions, etc. (702 KAR 4:170)
_ Electrical service entrance lines to school buildings shall be remotely located from student traffic lanes and areas planned for outside activities. (702 KAR 4:170)
_ Provide adequate site lighting for night-time hours: around building at each exterior door for security; and at all driveway intersections and bus loop for safe emergency vehicle access. (702 KAR 4:170)
_ For buildings utilizing LP gas, the storage tanks shall be enclosed with a chain link fence. (702 KAR 4:170)
_ A sewage treatment plant located on the school site shall be enclosed with a fence and provided with a water supply line with frostproof hydrant. (702 KAR 4:170)
_ At storm sewer outlets and headwalls, utilizing pipe eight (8) inches in diameter or larger, provide steel grate guards to prevent obstructions. Rip-rap is required to prevent erosion. (702 KAR 4:170)
_ Provide sub-surface drainage piping to divert roof run-off from building downspouts away from or under paved pedestrian or vehicular traffic areas. (702 KAR 4:170)
_ Locate school facilities at least two hundred (200) feet away from any source of air or water contamination and high-pressure gas lines. (702 KAR 4:170)
_ A geo-technical survey is required of all sites of new school facilities and of all school facility additions greater than two classrooms. (702 KAR 4:170)
_ Each school facility site shall be provided with an outdoor physical education area equivalent in size and graded similar to a soccer field. (702 KAR 4:170)
_ All playground equipment provided on school sites shall conform to the provisions of the " Handbook for Public Playground Safety", as published by the U.S. Consumers Products Safety

$_$ All instructional and office spaces $\underline{\text{must}}$ be accessible to the handicapped. This includes the stage, if one exists.
_ At least one handicapped stall for each sex must provided in the restrooms.
_ All program spaces <u>must</u> meet or exceed the net areas indicated in the <u>Facility Programming</u> and Construction Criteria Planning Guide. (702 KAR 4:170)
_ Minimum clear corridor width is: 8'-0" for elementary schools; and 9'-0" for middle, junior and high schools, excluding the depth of lockers. (702 KAR 4:170)
_ A corridor serving no more than two instructional spaces is defined as a <u>secondary corridor</u> . The minimum clear width of a secondary corridor is 6'-0". (702 KAR 4:170)
_ Corridors <u>must</u> terminate at an approved "means of egress", i.e., a door to the exterior or a stairway. (702 KAR 4:170)
_ Classrooms may be entered from an alcove off the corridor, provided that the alcove is no larger than 8'-0" wide by 6'-0" deep. (702 KAR 4:170)
$\underline{\ }$ No more than \underline{two} instructional spaces may empty into a dead-end corridor or alcove. (702 KAR 4:170)
_ A FMD classroom for special education, must be equal to the area of a standard classroom and be connected to a private restroom with a handicapped water closet, lavatory, roll-in shower and changing table. (702 KAR 4:170)
_ In middle and high schools, the FMD classroom shall have the utilities roughed-in and capped for a unit kitchen. (702 KAR 4:170)
_ Resource rooms shall be one half the size of a standard classroom and must have 24 square feet of chalkboard and 24 square feet of tackboard, minimum. (702 KAR 4:170)
_ If two Resource rooms are divided by a folding partition, each room must have its own door to the corridor, its own lighting and its own source of heating and air-conditioning. (702 KAR 4:170)
Note: It is strongly recommended to provide sound attenuation in the wall supporting the folding partition between the ceiling and structural deck above.
_ All doors exiting to the exterior of the building shall swing out. (702 KAR 4:170)

_ Any door to the exterior must exit onto a minimum 5' x 5' concrete pad with no change in

_ Provide independent air-conditioning system.
_ Provide sound attenuation throughout the administrative area with particular attention at offices and conference rooms. (702 KAR 4:170)
_ Provide dedicated empty conduit for telephones and computers as a minimum in all administrative spaces. (702 KAR 4:170)
First-Aid Room: (702 KAR 4:170)
_ Locate off the general reception area.
_ Provide direct view from reception area through half-glass door or sidelight.
_ Base cabinet with sink.
_ Space for at least one cot.
_ Connect to an accessible toilet room.
Guidance Area:
_ Minimum of one guidance office for elementary schools, plus one for each 300 students for middle, junior and high schools. (702 KAR 4:170)
_ Locate the guidance office or guidance suite in a manner that is accessible to a corridor without direct view to the administrative area housing either the principal or assistant principal. Provide a door between the administrative suite and the guidance suite if necessary for student privacy. (702 KAR 4:170)
_ Locate the guidance office or suite adjacent to the fireproof records storage. (702 KAR 4:170)
_ When a conference room is to be provided in the administrative suite, its location should be between the guidance office/suite and the administration area. (702 KAR 4:170)
_ A reception area of 150 SF is required. (702 KAR 4:170)
_ Translucent (not transparent) glass view panel and/or sidelight at the guidance office door is recommended.

Records Room:

_ If only one workroom is provided for the school, it should be located here, but accessible to the corridor that teachers use. (702 KAR 4:170)
_ Staff toilets should be located off of a connecting hallway into teachers' lounge or workroom. (Toilets in lounge or workroom should be visually shielded.) (702 KAR 4:170)
_ Small base cabinet with sink for coffee pot and other "kitchen" items. (702 KAR 4:170)
_ A second means of entry/exit out of the office for principal in junior high and high schools may be desirable.
_ A bookroom located off corridor, with storage shelving, counter and rolling shutter or dutch door, for selling school supplies and other items may be desirable.
Library/Media Center:
_ Centrally located to access all grade levels and areas of the building. (702 KAR 4:170)
_ Library/Media Center layout should allow for maximum visual control by the librarian from the circulation desk/work area. (702 KAR 4:170)
_ Full-height wall shelving on perimeter walls should handle the bulk of book collection.
_ Provide space for one class in the main Library/Media Center seating area to view audio-visual presentations, with a projection screen, electrical outlets and the means to darken the space for slides or films. (702 KAR 4:170)
_ A Library/Media Center is an instructional space! Windows must meet the following requirements: Sill height=30" min., 60" max.; Maximum head height=8'-8" unless approval from the Division of Facilities Management; Operable sash equal to 2% of the net floor area. (702 KAR 4:170)
_ Provide electrical outlets along the perimeter walls with pigtail to base of shelving units. (702 KAR 4:170)
_ Provide an area in the Library/Media Center for carrels and/or individual instruction equipment: computers, headsets, etc. (702 KAR 4:170)
_ Provide switching for all light fixtures from the circulation desk, except for a switch at the entry door to operate fixtures lighting the path to the desk. (702 KAR 4:170)
_ The Library/Media Center layout must include tables and chairs to seat no less than 60

The required Library/Media Center Support spaces (per 702 KAR 4:170)are: Workroom and Audio-visual Storage room for an elementary school; or an Office/Workroom and Audio-visual Storage room for a middle, junior and high school. (Note: The area allotted for support spaces shall not exceed 30% of the total Library/Media Center space required.) (702 KAR 4:170) Workroom shall have base cabinet with sink. (702 KAR 4:170) Provide a door between the Office/Workroom and the Audio-visual Storage Room in addition to doors into the main Library/Media Center space. (702 KAR 4:170) Provide view windows between the main Reading Room/stack area and the workroom/office areas for visual control by Librarian. (702 KAR 4:170) Entrance to the Audio-visual Storage Room should be controlled by the Librarian. Exit door to a corridor shall have "exit only" hardware. (702 KAR 4:170) Kitchen: Provide one serving line for each 300 students. (702 KAR 4:170) _ Provide visual control of the delivery door, walk-in freezer/cooler and dry foods storage from the manager's office. (702 KAR 4:170) Provide service/delivery door annunciator with push button at door and buzzer in Kitchen with light located so as to be seen from view window in the manager's office. (702 KAR 4:170) Provide an exterior can wash area (or a room accessible to the outside) with hot and cold water, and a floor drain. (702 KAR 4:170) Non-food storage room should have space for a washer and dryer with hot and cold water, 220v electrical outlet and dryer vent, as well as shelving for non-food items. (702 KAR 4:170) Provide a mop receptor/sink for cleaning the floor. (Possibly in the non-food storage room). (702 KAR 4:170)

Provide air-conditioning for the dry foods storage room to maintain proper temperatures for

year-round use per federal guidelines. (702 KAR 4:170)

Locate the condensers for the walk-in cooler/freezer in a non-conditioned space, remote if necessary. Allow for heat dissipation into a well-vented space and easy access for maintenance. (702 KAR 4:170) _ Provide a minimum 5'-0" clear aisle space around or at the front edge of the cooking battery, and 4'-0" clear aisles at all other food preparation items/equipment. (702 KAR 4:170) Provide a floor drain for condensation lines at all hot and cold food units and ice makers. (702 KAR 4:170) _ Provide a floor drain under the draw-off valve at tilting skillet and steam kettle. Field locate at equipment. (702 KAR 4:170) _ Provide faucet and floor drain at vertical cutter mixer. (702 KAR 4:170) Provide countertops or stainless steel tables for slicers and/or microwaves. (702 KAR 4:170) Provide a computer outlet at each cashier's station. (702 KAR 4:170) Student flow to the serving line should not disrupt those already in the cafeteria. If possible, enter the serving line directly from the corridor? Science area: For 5th and 6th grade 800 SF science classrooms, provide (per 702 KAR 4:170): seating at two-student tables (in place of tablet arm desks). Within each 1000 SF science classroom in middle, junior high or high schools, provide (per 702 KAR 4:170): in science classroom.) seating at two-student tables (in place of tablet arm desks);

ventilated per NFPA 30; sone additional sink with drainboard and hot and cold water: and _ In science classrooms and lecture labs where gas is used, provide a solenoid-type emergency "kill" switch for the gas and electric service to the room. Provide a accessible valve to shut-off water service to the room. (702 KAR 4:170) Where chemicals are to be used provide acid waste lines in all casework, connected to a dilution pit. (702 KAR 4:170) _ A lecture lab shall have 28 stand-up work stations maximum. (702 KAR 4:170) Art rooms: _ Locate the art room on the north side of the building with a doorway to the exterior for a future art studio. (702 KAR 4:170) Windows in the art room shall conform to the standard window requirements with the exception that an exemption may be approved by the Division of Facilities Management to allow the window opening to extend above the 8'-8" limit in Middle/High School Art Rooms only. (702 KAR 4:170) Provide lockable storage for supplies and projects. In middle, junior high and high school art Classrooms provide a separate 200 SF Art Office/Storage Room. (702 KAR 4:170) _ Provide at least one large (24"x20"x12" minimum) stainless steel sink, located at an island or

peninsular casework for simultaneous use by several students. (702 KAR 4:170)

_ Locate the Instructor's Office at the band room entry with a view window for visual control. (702 KAR 4:170)
_ Provide a small storage area in the Instructor's Office for a sheet music library. (702 KAR 4:170)
_ Provide Instrument Storage in a long room with full length shelving and an entry door at one end and an exit door at the other. Each door shall be 44" wide minimum. (702 KAR 4:170)
_ Provide hanging storage for band uniforms. (702 KAR 4:170)
_ Risers in Chorus or Band Rooms shall not be of permanent construction. (702 KAR 4:170)
_ Practice rooms, if provided, shall be constructed in metal studs and gypsum board for easy removal in the future. (702 KAR 4:170)
_ Provide a separate air-conditioning system for the band room for summer use. (702 KAR 4:170)
_ The minimum ceiling heights for Music Rooms shall be (per 702 KAR 4:170):
∠ 8'-8" for elementary school music classrooms;
≥ 10'-0" for middle/high school chorus rooms; and
Chorus rooms:
_ Locate the chorus room adjacent to the band room.
_ Where possible, provide office and storage common with band functions.
_ Provide storage for hanging choral robes. (702 KAR 4:170)
Computer Lab:
_ Computer labs used for keyboarding, and other typewriting and word processing skills, shall have a maximum of 28 work stations.
_ Provide 48 SF of marker board in the computer lab, in place of chalkboard. (702 KAR 4:170)

Locate all newer and data outlate for computers per the KETS "Building Wiring Standards": at

_ The unobstructed clearance above the basketball court shall be: 20'-0" for an elementary school gym; 22'-0" for a middle school gym; and 24'-0" for a high school gym. (702 KAR 4:170) Reminder: Locate all roof structural members so that it is impossible to climb on them from the top row of bleacher seats.
_ Provide a coach/instructor's office with a private toilet and shower. (702 KAR 4:170)
_ Provide bleacher seating for the entire student body for non-athletic functions and assemblies. (702 KAR 4:170)
_ Provide bullnose masonry units at all corners inside the gym. (702 KAR 4:170)
_ Provide acoustical materials at walls and ceilings to reduce noise for non-athletic functions. (702 KAR 4:170) Reminder: Give special consideration to public address systems applicable to gymnasium environment.
_ Provide a P.E. Storage room of at least 300 SF. (702 KAR 4:170)
_ Inserts in wood gymnasium floors for volleyball standards, electrical or public address system outlets are prohibited. (702 KAR 4:170)
_ Provide impact protective cages on all thermostats, alarms, switches, etc. (702 KAR 4:170)
_ Shower and locker rooms for each sex shall be provided for grades 7 and above. (702 KAR 4:170)
_ Provide quartz re-strike switching on four light fixtures for immediate illumination. (702 KAR 4:170)
$_$ Shower and toilet rooms shall have keyed-operated light switches remote from wet areas. (702 KAR 4:170)

STRUCTURAL DRAWINGS:

_ Roof framing must slope 1/4" per foot minimum for positive drainage; tapered insulation is not acceptable as the only means of positive slope. (702 KAR 4:170)

ELEVATION DRAWINGS:

- _ Window glass openings above 8'-8" AFF are prohibited in all instructional spaces with the exception of the Library/Media Center and Middle/High School Art Classrooms where approval of the Division of Facilities Management is required. (702 KAR 4:170)
- _ Glass block is prohibited in all instructional spaces except the Library/Media Center where approval of the Division of Facilities Management is required. (702 KAR 4:170)
- _ Check elevation drawings where canopies are required over exits. (702 KAR 4:170)

SECTION DRAWINGS:

- _ Check sections to confirm the 8'-8" minimum ceiling heights in areas not covered in the Room Finish Schedule. (702 KAR 4:170)
- _ Confirm 30" minimum window sill height. (702 KAR 4:170)

ROOF PLAN:

- _ Access to major rooftop mechanical equipment must be provided through a roof hatch via a ship's ladder. (702 KAR 4:170) A ship's ladder is defined here to have a pitch between 60 and 75 degrees from the horizontal, with flat treads and a handrail separate from the side rails. A "safety post" extension device is recommended at all roof hatches.
- _ Provide protective roof walkboards from roof hatch to, and around each piece of rooftop mechanical equipment.

ROOM FINISH SCHEDULE:

- _ Check this schedule to verify that kitchen, toilet, shower/locker or other areas requiring special flooring are provided with non-slip, waterproof, hard finish with matching base.
- _ Confirm 8'-8" minimum ceiling heights in all spaces, except 8'-0" in corridors and 10'-0" in Library/Media Centers and Cafeterias. See gyms and music rooms for respective ceiling heights. (702 KAR 170)

Door to **Records Room** shall be a minimum B-label, 1-1/2 hour fire-rated door. (702 KAR 4:170) _ Confirm that door to First-Aid Room has half glass view panel. (702 KAR 4:170) _ Doors into Pre-school Classrooms shall have a glass view panel 6" wide, from 6" above the floor to within 5" of the top of the door. (702 KAR 4:170) **ENLARGED LAYOUTS:** _ Check 1/4"=1'-0" plans for compliance with the provisions of 702 KAR 4:170 and the KDE consultant review comments. Deviation from the regulation or the comments will require a written explanation from the superintendent and approval of the Division of Facilities Management. **SITE UTILITY PLAN:** _ Check the location of the sewage treatment plant, sewer lines and manholes in relation to the building and the site. Locate the treatment plant remote from all developed areas and provide natural or artificial screening. (702 KAR 4:170) _ A sewage treatment plant on the site will require an enclosure fence and a water line with frostproof hydrant. (702 KAR 4:170) Where chemicals are utilized in science lecture/labs, verify the provision of an acid dilution pit. (702 KAR 4:170) _ Verify the provision of a grease trap outside the kitchen. (702 KAR 4:170) _ Verify the proper location of water service lines and easy access to valve controls. _ Check this plan for the electrical service entry and the transformer locations with respect to the student traffic, future growth of play areas, driveways, building expansions, etc. (702 KAR 4:170, 2.1) _ Check this plan for adequate site lighting. (702 KAR 4:170) For buildings utilizing LP gas, the storage tanks must be enclosed with a chain link fence. (702

KAR 4:170)

_ Check this plan for storm sewer outlets and headwalls. Verify rip-rap is provided as required to prevent erosion. (702 KAR 4:170)

PLUMBING PLANS:

- _ Check the plumbing plan for a key-operated hose bibb (18" above the floor) at each restroom containing more than one water closet. (702 KAR 4:170)
- _ Check this plan for the provision of at least two frost-proof hose bibbs. One should be located near the front entry. (702 KAR 4:170)
- _ Hot and cold water hydrants and a drain are required at the can wash outside the Kitchen. (702 KAR 4:170)
- _ In tile floors, provide square or rectangular floor drains.
- _ In middle, junior or high school training rooms, provide a floor drain and cold water connection for a whirlpool. Locate to allow access to whirlpool from three sides. (702 KAR 4:170)
- _ Provide a floor drain for condensate drainage from all hot or cold food service equipment items in the Kitchen (e.g. the walk-in cooler/freezer, ice-makers, etc.). (702 KAR 4:170)
- _ A custodial floor mop sink and shelving shall be provided, in a custodial workroom, on each floor level of the building. (702 KAR 4:170)

MECHANICAL PLANS:

- _ The mechanical room shall be planned to permit repair and replacement of equipment, satisfactory cleaning and care, and provide for combustion air. (702 KAR 4:170)
- _ The mechanical equipment shall be remote from the instructional areas and shall be sufficiently soundproofed so that its operation will not disturb instruction in the classrooms. (702 KAR 4:170)
- _ Plans for new construction and renovation shall provide that the boiler and its related equipment shall not be located directly over, under or adjacent to an instructional area. (702 KAR 4:170)
- _ Mechanical heating, ventilating and air-conditioning shall be provided in all new schools and in additions to existing schools. An exemption may be granted from air-conditioning mechanical rooms, shop areas, storage rooms and shower/locker rooms, (702 KAR 4:170)

_ Access to mechanical mezzanine or penthouse shall be via stairs or ship's ladder (see definition at Roof Plans). (702 KAR 4:170)
_ Provide tamper-proof thermostats or lockable covers on all thermostats in public areas and instructional spaces. (702 KAR 4:170)
_ "Gang" toilet rooms, shower rooms and locker rooms in a school building shall be mechanically exhausted. Exhaust registers shall be located at or in the ceiling of each shower room and drying area and exhausted directly to the outside. (702 KAR 4:170)
_ Exhaust ducts serving rooms for opposite sexes shall not be connected to a common exhaust duct unless adequate sound proofing is provided. (702 KAR 4:170)
ELECTRICAL PLANS:
_ In each classroom provide (per 702 KAR 4:170):
∠ a minimum of two duplex convenience outlets;
$ ot\!\! $ for ETV power supply, one duplex outlet located between 48" and 60" AFF, at the end of the visual display board opposite the door.
_ A minimum of one duplex outlet is required in each habitable space. (702 KAR 4:170)
_ Each corridor shall be provided with grounded convenience outlets of such capacity and at such intervals to accommodate floor cleaning machines in corridors and classrooms. (702 KAR 4:170)
_ Provide surge protection at all computer, telephone and video equipment items. (702 KAR 4:170)
_ Provide telephone and computer power and data outlets for each office space. (702 KAR 4:170)
_ Provide a duplex outlet at each drinking fountain location. (702 KAR 4:170)
_ Shower and toilet rooms shall have keyed-operated light switches remote from wet areas. (702 KAR 4:170) Note: Shower room lights should be switched with locker room lights.

_ In athletic training rooms where a whirlpool will be installed, a GFI outlet with a remote switch is

- _ ETV head-end equipment should be located in the library Audio-Visual Storage, or its equivalent, with appropriate means to distribute video presentations throughout the building. (702 KAR 4:170)
- _ Classroom lighting to produce 50 footcandles (per 702 KAR 4:170) at desktop height should be arranged in a uniform pattern. This is equivalent to 9 or 10 four-lamp 2'x4' fluorescent fixtures.
- _ Verify a weatherproof power outlet at each main exit. (702 KAR 4:170)
- _ Gymnasium lighting control shall have key-operated switch or shall be under lockable cover. (702 KAR 4:170)
- _ In the Gymnasium, provide quartz re-strike switching on four light fixtures for immediate illumination. (702 KAR 4:170)
- _ Verify that the plan provides for the computer network **Distribution Frame** rooms called for in 702 KAR 4:170.

FINAL PLANS and SPECIFICATIONS:

The plans and specifications submitted to the Division of Facilities Management for final review shall include the following items:

- _ "Wet" seal and signature on the front cover of both plans and specifications. (702 KAR 4:160)
- _ Advertisement or Invitation to Bid including the date and time for the receipt of bids.
- _ The bid documents required by 702 KAR 4:160:
- ≤ Supplementary Instructions to Bidders including deletion of Article 10-Public Works Act when not applicable;

- _ Division 1 of the specifications shall include sections covering the following topics:

- _ The Technical Specifications shall include:
- material or equipment specifications listing at least three acceptable manufacturers or containing "or equal" clauses;
- z roofing specifications with an unconditional two-year installer's warranty (in addition to the manufacturer's warranty) for all roofing systems to be used on the project, per 702 KAR 4:170;

- _ If not submitted previously or provided loose, the bound project manual shall include a copy of the Geotechnical Survey required by 702 KAR 4:170.
- _ Submit all other documents to DFM required by KDE and 702 KAR 4:160 prior to issuance of the authorization to advertise for bids.